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EXAMINER

LE, HUYEN D

ART UNIT PAPER NUMBER

2643

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 23

Application Number: 08/931,615
Filing Date: 09/16/1997
Appellant(s): Kawata et al.

PHILIP J. HOFFMANN
For Appellant

Mailed

NOV 20 2001

Technology Center 2600

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed 09/06/2001.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

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(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 2-9, 14-16 and 20-29 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

3,079,472	Sariti	2-1963
4,969,196	Nakamura	11-1990
GB 2,278,251	Lee et al.	November 1994

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JP 55-118299

Numa

September 1980

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 2-4, 6, 8-9, 15, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sariti (U.S. patent 3,079,472) in view of Nakamura (U.S. patent 4,969,196).

Regarding claims 4, 6, 15, ~~17~~, 20, 22-24 and ~~30~~, Sariti teaches a speaker unit which comprises a diaphragm (52), a cylindrical voice coil (50) secured on a center of the diaphragm, a rectangular frame (see the housing 48 in figures 1-2 and col. 2, lines 56-58), and a magnetic circuit formed by a rectangular top plate (12), a rectangular magnet (33) and a rectangular back plate (14) having an upright pole (24) on its center. As shown in figure 3, the upright pole (24) is formed as a unit with the back plate (also see attached the definition of the "integral").

As shown in figures 1-3, the top plate (12), the magnet (33) and the backplate (14), each has a width (figure 2) that is equal to or narrower than the width of the rectangular frame in its shorter axis. Also, the top plate (12), the magnet (33) and the backplate (14), each has a length (figure 3) that is equal to or shorter than the length of the rectangular frame in its longer axis.

In addition, Sariti shows the cylindrical voice coil (50) which has a circular cross section (see the circular openings 16, 34, and 20 in figure 1, and the air gap 30 in figure 2).

Since the magnetic circuit of Sariti is formed in a rectangular shape (col. 2, lines 56-58), the width of each of the top plate, the magnet and the back plate is substantially less than the

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length of each respective length as claimed. Also, it is obvious that the speaker unit of Sariti can be installed in any space such as a narrow space which is fitted with the width.

Sariti does not specifically teach the diaphragm and the frame which have the elliptical portion as claimed. However, Sariti does not restrict to any shape for the speaker system (col. 2, lines 56-59). Also, providing an oval or elliptical speaker is very well-known in the art.

Nakamura shows an oval or elliptical speaker (96) in a rectangular frame or a rectangular cover (figures 11, 13).

Therefore, it would have been obvious to one skilled in the art to provide an elliptical shape, as taught by Nakamura, for the speaker of Sariti such as providing an elliptical diaphragm and a frame with an elliptical opening to receive the diaphragm for an alternate choice of providing a desired shape for the speaker.

Regarding claims 2 and 8, Sariti shows the frame structure, the top plate, the magnet and the back plate which are arranged in parallel relation with one another.

Regarding claims 3 and 9, Sariti do not teach that the speaker unit is installed on either side of a television display on a television set.

However, the examiner takes the Office Notice that providing a speaker unit to be installed on either side of a television is very well-known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the speaker unit of Sariti to be installed in either side of the television for applying the speaker system to an electronic device.

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Regarding claim 15, as shown in the drawings, the magnetic circuit of Sariti has the same shape as the rectangular frame (also see col. 2, lines 56-59).

B. Claims 5, 7, 14, 16, 21 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sariti in view of Nakamura (U.S. patent 4,969,196) as applied to claims 4 and 6, respectively above, and further in view of Lee et al. (GP 2,278,251) or Numa (JP 355118299).

Regarding claims 5 and 7, Sariti in view of Nakamura do not teach a magnetic case as claimed. However, providing a magnetic case for housing the magnetic circuit is well-known in the art.

Lee or Numa shows a magnetic case (111 in Lee and 26 in Numa) as claimed.

Therefore, it would have been obvious to one skilled in the art to provide the magnetic case, as taught by Lee or Numa, for covering the magnetic circuit of Sariti in view of Nakamura to reduce the leakage magnetic flux.

Regarding claims 14, 16 and 21, Sariti in view of Nakamura do not teach a second magnet as claimed. However, it is very well-known in the art to provide a second magnet in the magnetic circuit of the speaker.

Lee or Numa teaches a second plate-shaped magnet as claimed in the magnetic circuit.. Therefore, it would have been obvious to one skilled in the art to provide the second magnet, as taught by Lee or Numa in the magnetic circuit of Sarati for reducing the leakage magnetic flux.

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Regarding claims 25-26 and 28-29, Sariti in view of Nakamura include all the limitations as claimed as mentioned above in paragraph A.

Sariti in view of Nakamura do not teach a second magnet as claimed. However, it is very well-known in the art to provide a second magnet in the magnetic circuit of the speaker.

Lee or Numa teaches a second plate-shaped magnet as claimed in the magnetic circuit. Therefore, it would have been obvious to one skilled in the art to provide the second magnet, as taught by Lee or Numa in the magnetic circuit of Sariti for reducing the leakage magnetic flux.

Regarding claim 27, as shown in the drawings, the magnetic circuit of Sariti has the same shape as the rectangular frame (also see col. 2, lines 56-59).

(11) Response to Arguments

Responding to the arguments in paragraphs 8A (ii)-(v) about the limitations of “substantially less than”, and the square shape for the housing (48) and the magnetic circuit (33, 12, 14), the Appellants should note that as disclosed in col. 2, lines 56-59 in the Sariti reference, the magnetic circuit (33, 12, 14) can be rectangular, circular or of any other desired shape. Sariti does not restrict to the housing and the magnetic circuit in the only square shape as argued.

Since the magnetic circuit of Sariti is formed in a rectangular shape (col. 2, lines 56-58), the width of each of the top plate, the magnet and the back plate is substantially less than the length of each respective length as claimed. Also, it is obvious that the speaker unit of Sariti can be installed in any space such as a narrow space which is fitted with the width.

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There is no disclosure in the Sariti reference that the sides of the housing 48 and each of front plate 12, magnet 33 and back plate 14 which are the same or substantially the same as argued on pages 11-12 and 15. According to the drawings and disclosure in the Sariti reference, the Appellants can not interpret “rectangular in col. 2, lines 56-59 was intended to correspond to those rectangles that were square or substantially” as argued on the last three lines of page 11.

Responding to the arguments about the Nakamura reference, the Appellants should note that the examiner just shows the Nakamura reference for a well-known oval or elliptical speaker which is mounted to a rectangular cover or frame.

Responding to the arguments about the limitation of integrally formed upright pole, the Appellants should note the definition (2)c of “integral” from Webster’s Ninth New Collegiate Dictionary. As shown in figure 3, the upright pole (26) in Sariti is formed as a unit with the back plate (14) of the magnetic circuit. Further, as interpreted in a different manner, constructing a formerly integral structure in various element involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. Also, it is very well-known in the art to provide an upright pole which is integrally formed with the back plate (see the plate 113 in Lee and the pole 21 and the back plate 22 in Numa).

Responding to the arguments about the Lee and Numa references, the examiner provides Lee and Numa references for a well-known magnetic case and a well-known second magnet to reduce the leakage magnetic flux in the magnetic circuit of the speaker system.

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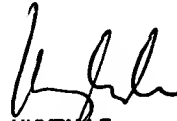
(12) Examiner's answer, conclusion

For the above reasons, it is believed that the rejections should be sustained.



HL
November 15, 2001

Respectfully submitted,



HUYEN LE
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- confer